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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,182	12/30/2003	Hirofumi Kawashima	S002-4974 (CIP)	9959

7590

05/16/2005

ADAMS & WILKS
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New York, NY 10004

EXAMINER

SUMMONS, BARBARA

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,182	KAWASHIMA, HIROFUMI	
	Examiner	Art Unit	
	Barbara Summons	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003 (pre-amendment).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 and 23 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,11 and 17 is/are rejected.
- 7) ☒ Claim(s) 2,5-10,12-16 and 18-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 1, the cross-reference information added by the pre-amendment needs to be updated to include - - now abandoned - - after "2003". Appropriate correction is required.

Claim Objections

1. Claims 10, 13-15 and 18 are objected to because of the following informalities:

In claim 10, on the next to last line reference signs r_1 , r_2 , Q_1 , and Q_2 must be identified (see e.g. the specification at section [0082]). They appear to be the capacitance ratios at the fundamental mode and the second overtone mode and the quality factor at the fundamental mode and the second overtone mode, respectively.

In claim 13, the reference signs α_1 , α_2 , β_1 , and β_2 must be identified (see e.g. the specification at section [0029]).

In each of claims 14, 15 and 18, the reference signs R_1 , R_2 , RL_1 , and RL_2 must be identified (see the specification at section [0031]). Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

Art Unit: 2817

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 3, 4, 11 and 17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3, 4, 11, 21 and 27, respectively, of copending Application No. 10/875,114. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '114 application include all of the limitations of the claims of the instant application, with the stepped grooves and electrodes recited in the dependent claims listed above of the '114 application reading on the grooves and electrodes of this application, and the piezoelectric constant range of 0.1 to 0.19 C/m² recited in the independent claims of the '114 application is within the claimed range of this application. Regarding claim 3, claim 4 of the '114 application has through holes that correspond to the grooves as through holes of the instant application, and the mode of the resonators as flexural (see claims 10, 16 and 22 of the '114 application) would have been obvious to one of ordinary skill in the art. It should be noted that claim 11 of the '114 application also is not patentably distinct from claim 1 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

4. Claims 22 and 23 are allowable over the prior art of record.

Art Unit: 2817

5. Claims 2, 5-10, 12-16 and 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawashima U.S. 2004/0263027 is the printed publication of the application used in the Double Patenting rejection above.

Kawashima U.S. 2003/0080652 and U.S. 2003/0197566 are related applications by the inventor of the instant application, and they have been reviewed, but have no Double Patenting issues.

Kawashima U.S. 6,545,394 and Beaussier et al. U.S. 5,361,045 each discloses Lamé mode quartz crystal resonators.

Kawashima U.S. 6,717,336 and U.S. 6,707,234 each disclose a resonator with the piezoelectric constant within the recited range, but they are not tuning fork resonators, and Kawashima U.S. 5,334,900 and U.S. 4,178,566 each disclose a resonator with the piezoelectric constant in the recited range, but the resonators do not have grooves.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (571) 272-1771. The examiner can normally be reached on M-Th, M-Fr.

Art Unit: 2817

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 271-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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May 11, 2005



**BARBARA SUMMONS
PRIMARY EXAMINER**